

CLAIMS

1. (Currently Amended) A sound diffuser with low frequency sound absorption for diffusing and absorbing sound waves, comprising:

a) a non-sound absorbing body having a front surface configured to diffuse some of said sound waves, and a rear surface; and

b) means permitting others of said sound waves to travel from said front surface to said rear surface through said body, and sound absorbing means on said rear surface of said body for absorbing said others of said sound waves below a desired cut-off frequency.

2. (Original) The invention of Claim 1, wherein said front surface includes a plurality of divided or non-divided parallel wells.

3. (Original) The invention of Claim 1, wherein said front surface includes a two-dimensional pattern of geometrical or irregular shape chosen from the group consisting of cylindrical, conical, pyramidal, polygonal or rectangular.

4. (Original) The invention of Claim 3, wherein said shapes are separated by slots or holes.

5. (Previously Presented) The invention of Claim 4, wherein said permitting means comprises said slots or holes.

6. (Original) The invention of Claim 1, wherein said front surface comprises a compound curved shape.

7. (Previously Presented) The invention of Claim 1, wherein said permitting means comprises a plurality of open slots.

8. (Previously Presented) The invention of Claim 1, wherein said permitting means comprises a plurality of holes.

9. (Previously Presented) The invention of Claim 8, wherein said holes comprise a first set of holes and a second set of holes smaller than said holes in said first set of holes.

10. (Original) The invention of Claim 9, wherein said sets of holes are arranged in rows of holes.

11. (Original) The invention of Claim 10, wherein each row of holes is located within a well of a diffusive surface.

12. (Original) The invention of Claim 10, wherein each row of holes is located across a plurality of wells of a diffusive surface.

13. (Canceled)

14. (Previously Presented) The invention of Claim 1, wherein said sound absorbing means is made of a porous absorptive material chosen from the group consisting of fiber glass, mineral wool, cotton and foam.

15. (Previously Presented) The invention of Claim 7, wherein the slots are narrow enough to provide measurable low frequency absorption.

16. (Canceled)

17. (Previously Presented) The invention of Claim 15, wherein said slots have a width of 0.1 millimeter to 1 millimeter.

18. (Previously Presented) The invention of Claim 16, wherein said holes have a diameter of 0.1 millimeter to 1 millimeter.

19. (Original) The invention of Claim 1, wherein a crossover frequency is chosen below which sound absorption takes place and above which diffusion takes place in accordance with required usage.

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Canceled)